

# GBRA Gonzales Reach Instream Flow Study Update

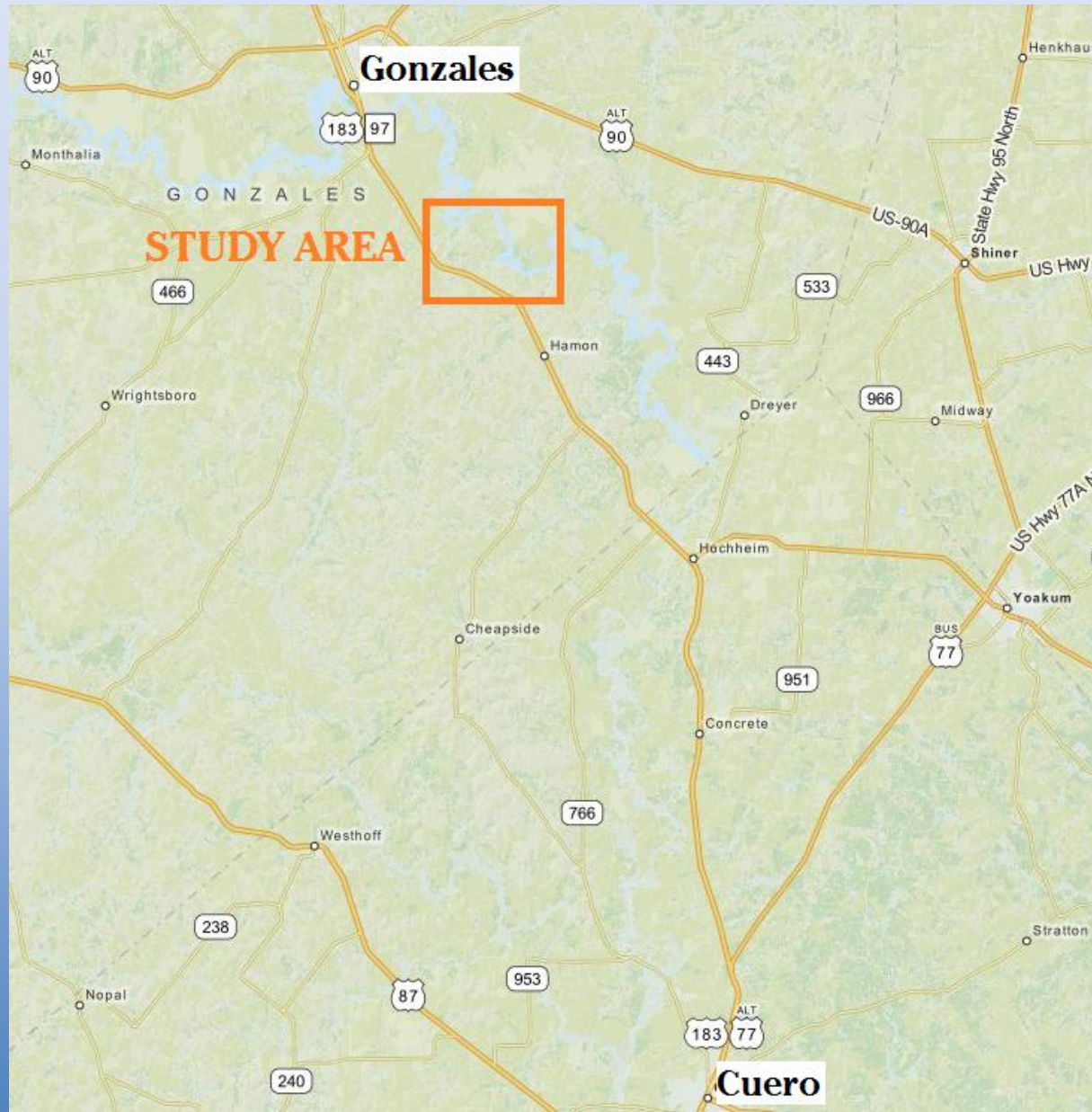


Guadalupe, San Antonio, Mission, and Aransas Rivers and  
Mission, Copano, Aransas, and San Antonio Bays Basin and Bay  
Area Stakeholder Committee (BBASC)

June 27, 2013

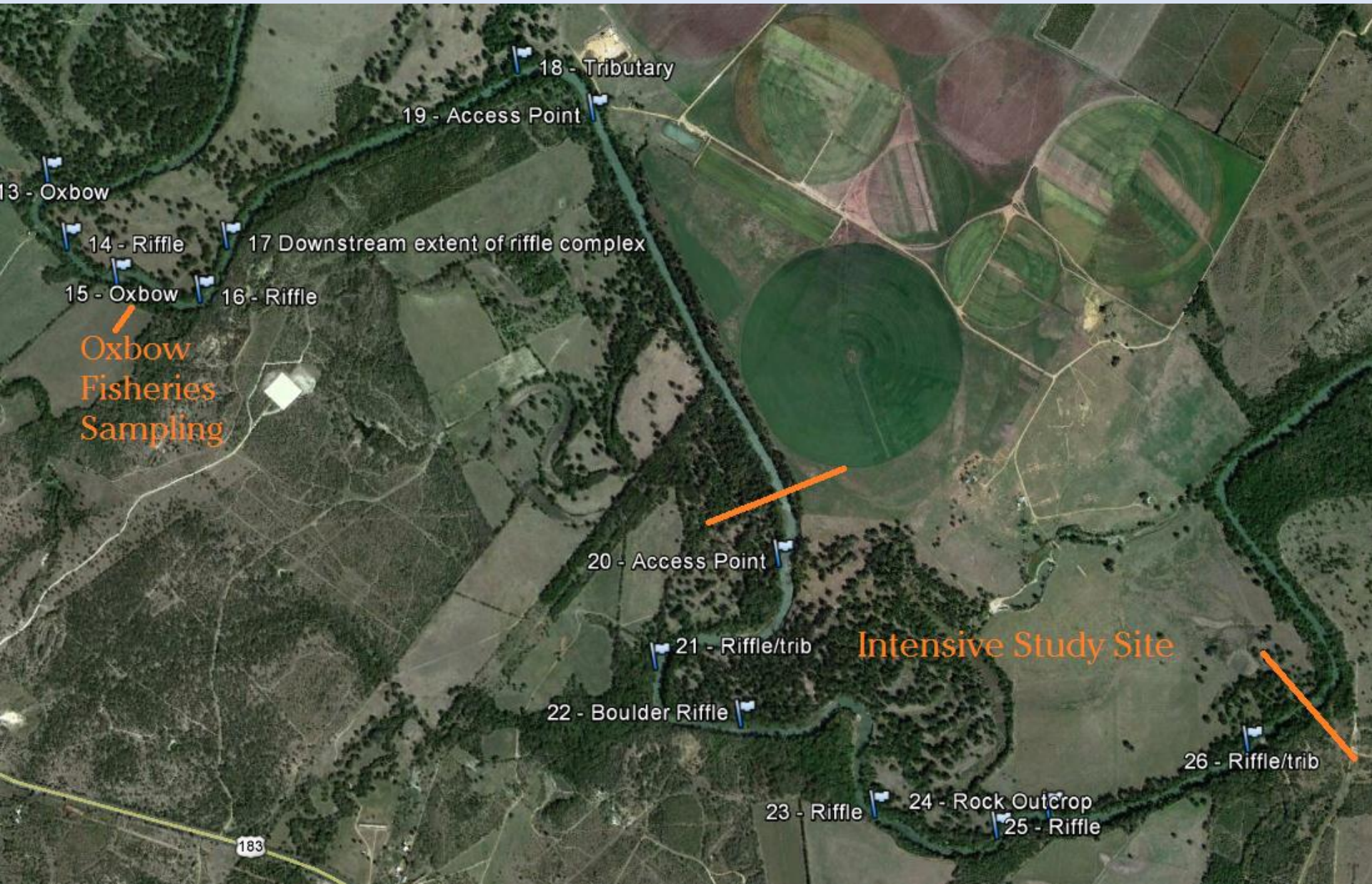


# Representative Study Reach





# Study Area



# Study Components

- Subsistence / Base Flow

- Habitat, Substrate, Physical Data (discharge, bathymetry)
- Seasonal Aquatic Sampling
  - Fisheries
  - Mussels
  - Benthic macroinvertebrates
- Hydraulic and Habitat modeling
- Water Quality characterization

- Flow Pulses

- Sediment transport
- Seasonal Oxbow fisheries sampling / connectivity
- Substrate disturbance
  - Benthic Macroinvertebrates and Mussels
- Riparian Assessment



# Physical Data Collection





# Physical Data Collection





# Biological Data Collection





# Biological Data Collection



Oxbow Fish Sampling





# Biological Data Collection



Benthic macroinvertebrates



# Biological Data Collection - Mussels





# Biological Data Collection - Mussels



False Spike  
*Quadrula mitchelli*  
TPWD-threatened  
Considered extinct



Texas Pimpleback  
*Quadrula petrina*  
TPWD-threatened  
ESA-candidate



Golden Orb  
*Quadrula aurea*  
TPWD-threatened  
ESA-candidate



# Progress

- Segment Reconnaissance – June 2012
  - Reach and Intensive Study Site selection – August 2012
- Seasonal Sampling
  - August 2012:
    - Fish sampling and mussel reconnaissance
  - October 2012:
    - Water surface, discharge, water quality, sediment transport, fish, mussel, macroinvertebrate
  - January 2013:
    - Water surface, discharge, water quality, fish, mussel, macroinvertebrate
  - May 2013:
    - Water surface, discharge, water quality, fish, mussel, macroinvertebrate
- Riparian Assessment
  - Reconnaissance and securing access for equipment



# Upcoming Activities

- Second year of seasonal biological sampling
- Initiate Riparian assessment
- Complete hydraulic measurements
  - Bathymetry, water surface elevations, discharges
- Develop and calibrate hydraulic and habitat models
- Conduct water quality and sediment transport assessments versus discharge
- Data reduction and analysis
- Reporting





Questions?